Although mass, population-wide weight loss is not a plausible strategy, prevention of age-related weight gain in the adult population is. If primary care systems operated in line with the control condition in this study, they would contribute to progressively reducing adult obesity prevalence.

A primary care system that makes weight a vital sign[12] by actively monitoring weight in all patients and communicating the benefits of normal growth trajectories for children and no age-related weight gain for adults would go a long way to fulfilling its population health potential to prevent the weight-related health problems that fill up its waiting rooms.

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We declare no competing interests.



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# 6 year follow-up supports early autism intervention

Published Online October 25, 2016 http://dx.doi.org/10.1016/S0140-6736(16)31656-7

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There have been few large randomised controlled trials of early intervention for children with autism spectrum disorder, even fewer with follow-up data, and none with such a lengthy follow-up period as that reported by Andrew Pickles and colleagues[1] in *The Lancet*. These researchers assessed long-term outcomes for children who had received a parent-mediated intervention versus treatment as usual nearly 6 years earlier. That earlier study from 2010[2] was notable for its rigorous methodology.[3]

The present follow-up study is also worthy of note. To appreciate its importance, some background is needed on the 2010 study. That study was a large randomised controlled trial in which young children (aged from 2 years to 4 years and 11 months) were assigned to receive treatment as usual (n=75) or treatment as usual plus the manual-based Pre-School Autism Communication Trial (PACT) programme (n=77). The PACT intervention is grounded in developmental principles and aims to increase parent sensitivity and responsiveness to child communication through various strategies such as improving parent observation, responsiveness, and focused communication. Compared with other early intervention approaches for young children with autism,[4-6] the PACT intervention reported in 2010 was a relatively low-intensity programme. Parents received 2 h clinical sessions every 2 weeks for the first 6 months, followed by monthly booster sessions during the final 6 months. Parents were also asked to implement their newly acquired sensitivity and responsivity skills at home for 20–30 min each day.

The treatment effect was initially viewed as modest,[2] but the updated analysis reported in this follow-up study[1] reveals greater improvements in the intervention group than in the treatment-as-usual group. The improvements seen from the initial PACT trial are consistent with results from other randomised controlled trials of early autism interventions.[4-6]

The follow-up study[1] sought to establish the long-term durability of these initial treatment gains. Follow-up was done at 5·75 years after the trial endpoint and included nearly 80% of the original sample. The resulting data, which were analysed with

repeated measures approaches, showed sustained treatment effects. Specifically, the severity of autism symptoms was significantly lower for children in the intervention group than for children in the treatment-as-usual group. These differences were evident at the trial endpoint and at this 5·75 year follow-up. Secondary analyses showed that changes in social communication and restricted and repetitive behaviour, which are the two core features of autism, contributed to the overall treatment effect.

Although this finding is encouraging, comparison of the results of the initial PACT trial with those in this follow-up reveals conflicting conclusions between the two publications. Specifically, whereas there initially appeared to be no value-added effect for the PACT intervention,[2] Pickles and colleagues[1] now conclude that the addition of PACT to treatment as usual produces sustained reductions in the severity of autism symptoms. This apparent discrepancy stems from a change in how the severity of autism symptoms was scored. In the 2010 trial, scores were derived from a social communication algorithm from the Autism Diagnostic Observation Schedule-Generic (ADOS-G).[7] However, for the follow-up study, these scores were updated by calculating ADOS Comparative Severity Scores for the full range of autism symptoms.[8] The updated scoring scheme seems reasonable and the re-analysed data support the more optimistic conclusions of the follow-up study. Indeed, these new follow-up data raise the intriguing possibility that a 12 month, relatively low-intensity intervention has the potential to produce long-term improvements in autism symptoms.

Overall, Pickles and colleagues[1] have made a major contribution to autism research by providing new high-quality evidence to support the potential value of adding the PACT intervention to educational services for young children with autism spectrum disorder. Future research of this type could advance science by attempting to isolate the critical treatment components and mechanisms underlying sustained treatment gains. Pickles and colleagues[1] suggest that their positive long-term outcomes stemmed from optimisation of parent–child social communicative interactions, which then become self-sustaining. Another possibility is that early interventions of this type enable neural development and normalise brain activity.[9] Of course these two possible mechanisms are

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neither mutually exclusive nor exhaustive. Still, the emerging evidence favouring the PACT intervention[1,2] and similar programmes[4–6] suggests that some major, yet undetermined, developmental mechanism might be involved.

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We declare no competing interests.



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